SUBJECT AREA: **Audits, None**

REFERENCE: **Chapter 22**

QUESTION:

The EIS notes that Manitoba Hydro's EMS is "certified under the International Organizations for Standardization (IS) 14001 Environmental Management System standard" (p. 22-2). It states hat "The ISO standard ensure quality, performance, and continual improvement in the delivery of Manitoba Hydro's Environmental Protection Program" (p. 22-2). The EIS then states the "Environmental protection plans for the Project will be subject to internal and external audits through Manitoba Hydro's ISO 14001 registration process." According to the Bipole III Transmission Project 2015 Biophysical Monitoring and Mitigation report, "the Riel Construction Department and Site were audited in October 2015 by third party auditor as part of the Manitoba Hydro's re-registration of ISO 14001" (p. 30). During the assessment for the Keeyask Generating station, CAC Manitoba requested a "copy of the most recent ISO 14001 audit", or, in the absence of the audit report, "a summary of the outcomes of the audit, including where improvements were suggested." This request was denied by Manitoba Hydro, because it said the "audit reports are considered to be the intellectual property of the auditors and, as such, cannot be released in whole or in part without their written consent."

Questions

1. Please include a copy of recent ISO 14001 audits, including the 2015 audit of the Riel Construction Department and Site. If this is not possible, please confirm whether Manitoba Hydro requested the consent of the auditors to release the most recent version of ISO 14001. Also please summarize the outcomes of this audit, including the areas where improvement was suggested.
2. If you cannot provide the information requested above, please outline how you intend to conduct audit of the environmental protection plans for this project, in a way that results of such an audit can and will be publicly available.

RESPONSE:

Filed as CAC-IR-001_Attachment, please find three sections of the 2015 ISO 14001:2004 Maintenance Assessment. Our auditors have given written permission for the release of relevant portions of a single report for this occasion only. They have authorized the release of the Executive Summary, the Plan and Activities section and a corrective action request.

Executive Summary

PricewaterhouseCoopers LLP ("PwC") completed the year one Maintenance Assessment (A1) of Manitoba Hydro's Environmental Management System (EMS) from October 5th to 9th, 2015. The Maintenance Assessment was completed to assess conformance with the requirements of the ISO 14001:2004 Environmental Management System Standard ("Standard"). This report summarizes the results of the assessment.

Methodology

The Maintenance Assessment was structured in accordance with the requirements of ISO 17021:2011 Conformity Assessment - Requirements for Bodies Providing Audit and Certification of Management Systems and included all elements of the Standard. During the Maintenance Assessment, PwC tested for implementation of the Standard in the context of opportunities to improve Manitoba Hydro's ability to meet their objectives, manage risk, and improve environmental performance as it relates to their EMS. Moreover, PwC reviewed the implementation and effectiveness of Manitoba Hydro's corrective action plans developed for previous minor nonconformities and opportunities for improvement.

Findings and Observations

We observed a growing enthusiasm within Manitoba Hydro to identify opportunities to standardize and find efficiencies within their processes. These efforts are reflected in some of the good management practices summarized in the report, and reflected in the work being done to integrate their EMS with their Safety Management System (SMS). The SAP EHS module is scheduled to be implemented by March 31, 2016, with full integration targeted in 2017. Given the work completed to date, Manitoba Hydro is well positioned to achieve this goal and fully recognize the benefits, including more effective risk management and reduced duplication, of combining environmental, health and safety management processes.

There were no major nonconformities that impacted the Maintenance Assessment of the EMS; however, three minor nonconformities were identified.

- During the 2014 Re-registration assessment, we raised an opportunity out of concern that the current systems and tools in place to manage training may not be achieving the intended outcome. We observed further issues this year. In addition to the Human Resources Management System (HRMS), which is the intended resource for managing and tracking staff training, parallel systems (e.g., excel spreadsheets) where found to be in use, which has resulted in inconsistent records and generally results in inefficiencies. Furthermore not all staff responsible for managing training were familiar with how to access and effectively use the HRMS.
- During the previous two assessments, we raised two nonconformities and an opportunity for improvement related to legal requirements and evaluation of compliance. Significant work has been done to address these findings and improve this component of the EMS. The majority of corrective actions were complete or under development; however, it was not possible to test their full implementation and subsequent effectiveness and thus additional work is required.

- Hazardous Materials Management has been identified as a significant environmental activity relevant to all facilities and Shared Services. Our site tours revealed instances of improper storage of flammable and combustible liquids in accordance with Manitoba Hydro's Chemical Storage Handbook indicating possible issues with the implementation and/or effectiveness of certain controls and/or monitoring activities.

In addition, five opportunities for improvement were identified.

- Enhance the management review process by incorporating relevant environmental information identified by programs outside of CED in order to help determine the overall effectiveness of the corporate EMS.
- Leverage learned best practices by documenting high level business processes in order to guide future initiatives.
- Establish 'leading indicators' for the EMAC Dashboard in order to proactively understand the effectiveness of the control and manage risk.
- Define environmental related expectations or criteria that BUs are to report up to the CED in order to help ensure sufficient and timely information needed to understand emerging compliance concern.
- Document, and communicate the responsibilities for future environmental legislation subject matter experts in order to ensure parties are aware of and fully understand the role and what they are accountable for.

Future Areas of Focus and Priorities

There are a number of areas of Manitoba Hydro's operations and processes that may be considered as focus areas in next year's PwC Maintenance Assessment:

- Operationalization of the corporate compliance evaluation framework.
- Governance program and related internal inspection activities related to the Petroleum Storage Renewal Program.
- Management of the transition from construction phase to operationalization phase as it relates to the EMS.
- Implementation and maintenance of the Lake Winnipeg Regulation stakeholder engagement plan.

In addition, we encourage Manitoba Hydro to consider the development of a transition plan in preparation to successfully transition to the new Standard (ISO 14001:2015) prior to the due date of September 1, 2018.

Assessment Plan and Activities

The assessment scope, objectives, audit team members, and plan are described in the Planning Memo dated October 1, 2015 prepared by PricewaterhouseCoopers LLP ("PwC") and forwarded to Manitoba Hydro ("the Client") prior to initiation of the Assessment. A copy of the Assessment Schedule indicating the clauses and areas covered by the assessment is included as **Appendix A**. The Assessment Scope presented in the schedule and the Registration Scope statement on the certificate were confirmed during the opening meeting. The Registration Scope statement remains unchanged.

Assessment Date

The assessment was completed between October 5th and 9th, 2015.

Assessment Activities

The primary activities during the assessment were:

- Collecting assessment information;
- Confirming that information and comparing it to the ISO 14001:2004 Standard (the "Standard"), the Client's documented processes, and PwC's requirements (the "Requirements");
- Generating assessment findings; and
- Preparing the Assessment report.

Assessment Limitations

There were no limitations that impacted the completion of the Assessment.

CORRECTIVE ACTION REQUEST
ISO 14001:2004

Assessment Finding Information	
Organization: Manitoba Hydro	Assessment Finding N°: 385-A1-NC-02 Minor Nonconformity
Department/Branch: Corporate Environmental Department	Date: October 5 – 9, 2015
Facility Representative: Alec Stuart	
Assessment Team Leader: S. Raduy	Audit Members: D. O'Brien, L. Stoughton, J. Azzam
Assessment Criteria Reference Section	
Standard and Clause N°: ISO 14001:2004 @ 4.4.6 Operational Control	
Clause Text (applicable section): ISO 14001:2004 @ 4.4.6 requires that the organization identify and plan those operations that are associated with the identified significant environmental aspects consistent with its environmental policy, objectives and targets, in order to ensure they are carried out under specified conditions by: a) Establishing, implementing and maintaining a documented procedure(s) to control situations where their absence could lead to a deviation from the environmental policy, objectives and targets, and b) Stipulating the operating criteria in the procedure(s), and c) Establishing, implementing and maintaining procedures.	
Assessment Finding and Description of Objective Evidence- Is this system wide or an isolated incident?	
Manitoba Hydro has identified Storage of Petroleum Products as a significant environmental activity relevant to all facilities and Shared Services. To control the risk of a release Manitoba Hydro's Chemical Storage Handbook, procedure 9.1b requires that flammable and combustible liquids have secondary containment in place. At two sites visited we observed oil storage containers without secondary containment: • At a construction site, we observed a 55 gallon container used to store transformer oil test samples stored outside of the transformer containment berm and without secondary containment. • At an operational site, we observed a sealed 55 gallon drum containing new transformer oil stored without secondary containment. The two issues were observed at both locations we visited and there is a concern that similar issues may be present throughout Manitoba Hydro's properties or construction sites. **Working Paper/Protocol Reference:** 4.4.6	
Intent (documentation): Implementation: X	Effectiveness: X
Facility Representative Accepting Assessment Finding: Alec Stuart	Action Plan Due Date: December 7, 2015
Client Response:	
Describe immediate Correction: *The correction, RCA and corrective actions have been provided to PwC on Manitoba Hydro's Corrective Action documentation program. They are located within the PwC client file.*	

CORRECTIVE ACTION REQUEST
ISO 14001:2004

Provide causal analysis and results of further investigation:		
Provide Corrective action response (based on causal analysis and investigation, determine if corrective action is needed for systemic issues or not if this is an isolated incident):		
Facility Representative Responsible for Proposed Action: Alec Stuart	Date Action Plan Received by PwC: December 9, 2015	
PwC Internal Use		
PwC comment(s): The corrective action developed is acceptable. PwC will review the implementation of the corrective action at the next Maintenance Assessment (A2). The status of this assessment finding is **OPEN**.		
Lead Assessor or Registrar Approval: Steven Raduy	Date: January 4, 2016	Certificate Number: PwC-ISO 14001-385

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Sections 22.1.3, 22.2. and Section 11.2.12**

QUESTION:

The EIS for the Bipole III transmission project indicated that : "All enquiries or complaints received will be recorded and reviewed by the Environmental Protection Management Team for response or action" (p. 11-12 underline added). The EIS for the MMTLP indicates that "Formal enquiries or complaints received will be recorded and reviewed by members of the Environmental Protection Management Team for response or Action" (p.22-10, underline added). There was no discussion of this difference in section 22.1.3 "Learnings from Previous Projects"

Questions

1. Please provide an explanation of what Manitoba Hydro considers to be a "formal enquiry or complaint".
2. Please describe the factors that lead Manitoba Hydro to decide to send only formal enquires or complaints to the Environmental Protection Management Team?
3. Please detail the process through which (a) a formal enquiry or complaint is made and (b) actions are undertaken by Manitoba Hydro to respond to the formal enquiries or complaints.
4. Please describe how any informal or other enquiries or complaints are treated.

RESPONSE:

1. A formal enquiry or complaint referenced in section 22.2.4 is one received via the Project website, email or phone number.
2. Manitoba Hydro does not restrict itself to only sending formal enquiries or complaints to the Environmental Protection Management Team.
3. a) A formal enquiry or complaint, as described in section 22.2.4, is made via methods described in response #1.

b) Enquiries and complaints are recorded and reviewed by the Environmental Protection Management Team and responded to in prompt manner using the appropriate communication method.

4. Manitoba Hydro, throughout construction and operations, receives a variety of informal and other enquiries and complaints from a large variety of stakeholders, First Nations and Metis. These enquiries and complaints are of such a vast nature they are directed to and addressed by the appropriate level in the Environmental Protection Organizational Structure (see Figure 22-2).

SUBJECT AREA: **Environmental Protection, Follow-up and Monitoring, None**

REFERENCE: **Chapter 22 Environmental Protection, Follow-up and Monitoring, Sections 22.3.3 Chapter 6 Environment & Socio-Economic Setting**

QUESTION:

Chapter 6 of the impact statement sets out the environmental and socio-economic setting for the project. It "provides the basis of the environmental assessment" (p.6.2), with additional information about specific VECs described in chapter 8 to 18.

Traditionally, the Environment & Socio-Economic Setting Chapter is considered to be a summary of the baseline conditions.

In outlining the objectives of the monitoring plan, the sixth bullet identifies that monitoring plans are to "provide baseline information to evaluate long-term changes or trends" (p. 22-20).

Question

1. Please specify (list and explain) the outstanding baseline information not captured in the EIS.

RESPONSE:

Chapter 6 of the EIS is intended to provide an overview of the existing environment in the Project region by providing a summary of the biophysical and socioeconomic environments with respect to the Project. Details on specific valued component topics are provided within technical reports and within each valued component chapter.

Some aspects of the Environmental Protection Program, such as Golden-winged warbler (GWW) Habitat Management Plan (HMP), were developed after the EIS was published. The GWW HMP (detailed in CEC-IR-050) will contribute to more detailed understandings on the effectiveness and long-term changes in GWW habitat availability on the ROW.

In addition to the above, the Environmental Monitoring Plan as filed on September 23, 2016 http://www.gov.mb.ca/sd/eal/registries/5750mbhydrombminnesota/mmtp_epp_environmentalmonitoringplan_draft.pdf outlines the Manitoba Hydro's pre-construction survey

commitments for each applicable component. A monitoring program's information requirements are different than those of an environmental assessment; these pre-construction surveys will augment and enhance the baseline information collected as part of the EIS.

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Chapter 22, Section 22.1.3**

QUESTION:

For the Bipole III transmission project, Manitoba Hydro employed Environmental Monitors, who were to "assist Environmental Officers/Inspectors and perform biophysical monitoring". (p 11-5). These monitors were included in the organizational structure (Figure 11.2-1), as part of the Environmental Protection Implementation Team, with specific roles and responsibilities.
For the Manitoba-Minnesota Transmission Line Project (MMTLP), Environmental monitors no longer appear in the Environmental Protection Organizational structure, and the reference to Environmental Monitors has been removed from the Roles and Responsibilities section.
In the "Lessons Learned" section of the MMTLP, it was noted that "Environmental Inspectors and monitors that were on the ground during construction participate in the summer monitoring by discipline specialists (i.e. aquatics and heritage). This closed the feedback loop, fostering improvement and seeing results from Winter Construction."
1. Will Manitoba Hydro employ Environmental Monitors for the MMTLP?
a. If so, how do these positions fit within the Organizational Chart, and what are the anticipated roles and responsibilities of the environmental monitors?
b. If not, please explain why Manitoba Hydro has identified that Environmental Officers/Inspectors are not required for the MMTLP. Please also explain what provisions are in place to ensure that the learning outcomes identified and associated with this position, are captured in the monitoring program.

RESPONSE:

a. Manitoba Hydro has since the start of Bipole III Project developed different approaches to its ongoing First Nation and Metis Engagement Process as described in Section 22.3.1. As such the position of Environmental Monitor as described in the Bipole III Project is

something that while under consideration for the MMTP has not been determined so it was excluded from the Organizational chart Figure 22-3.

b. Manitoba hydro has identified Environmental Inspectors as a role in MMTP, see section 22.2.3.1. Please see response to CEC-IR-079 for additional info on community involvement in monitoring.

SUBJECT AREA: **Monitoring, Mitigation**

REFERENCE: **Sections 22.1.3 and 22.2.3**

QUESTION:

The EIS for the MMTLP notes: "there are resource allocations for the delivery and implementation of specific environmental protection measures to meet corporate policy and government regulatory requirements. Manitoba Hydro is committed to staffing the Environmental Protection Program with sufficient Environmental Inspectors and providing required support, including training, financial resources and equipment." (page 22-7), There is similar wording in the EIS developed for the Bipole III Transmission Project Project (p 11-6). However, there is no information in the lessons learned section of the MMTLP specific to the resources necessary, including staff, training and resources.

Question

1. Please provide additional details about the funding portfolio anticipated to ensure that there are sufficient inspectors, and required supports associated with these positions.
2. What if any "lessons learned" arise from the Bipole III Transmission Project project?
3. How does Manitoba Hydro determine "sufficiency"?

RESPONSE:

1. Decisions have not yet been made on specific resources associated with inspectors and required supports.
2. The following are examples of lessons learned on the Bipole III Transmission Project Project:

   Systems Support: Improved support and training for Environmental Inspectors and their use of the Environmental Protection Information Management System (EPIMS). Based on lessons learned in the beginning years of the Bipole III Transmission Project Project, additional trouble shooting documents, training videos and tutorials were created as well as a weekly conference call to discuss issues and solutions in a forum setting. An

introductory package was developed to be sent out to new users (such as contract Environmental Inspectors) that would provide all necessary directions and resources needed to contribute daily reports into EPIMS prior to a more formal form of training taking place.

Communication: Manitoba Hydro identified the value of effective feedback mechanisms for Environmental Inspectors providing them with structured opportunities to influence change in the Environmental Protection Program (EPP). These opportunities came in the form of weekly conference calls into their supervisors in a forum setting to discuss issues that may arise during implementation. Annual reports written by Environmental Inspectors sent to their supervisors with strict confidentiality allowed for open and transparent sharing of information. Reports provided a template for Inspectors to comment on several components of the EPP.

Training: During the Bipole III Transmission Project, Environmental Inspectors benefited from refresher training during annual construction start up meetings to communicate changes to regulations and protocol. In addition, individuals participated in a number of external training courses on Erosion and Sediment control, Soil sampling, Timber Scaling, Transportation of Dangerous Goods certification. Several Inspectors took advantage of Internal Manitoba Hydro Computer Based Training (CBT) modules including Biosecurity for professional development. This level of training was beneficial to the project.

Cross Training: From the Bipole III Transmission Project the benefit of providing opportunities for Environmental Inspectors to participate in annual monitoring surveys with discipline specialists was recognized and supported. This allowed for onsite transfer of knowledge, Environmental Inspectors providing context and express challenges with mitigation measures and Monitoring Specialists providing the environmental effects analysis of mitigation implementation.

Regulatory Communication: A weekly summary report process was developed to share Project progress with regulators. Written by the Environmental Inspectors and sent to

Sustainable Development, these reports contributed to relationship building and transparency between Manitoba Hydro and the regulator.

3. Manitoba Hydro determines sufficiency as having enough Environmental Inspectors to fulfill the commitments of its Environmental Management Policy (Chapter 22, Section 22.1). The amount environmental inspection resources is determined by a variety of factors including construction schedules, number of contractors, division of construction segments, and phase of construction.

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Section 22.2.4**

QUESTION:

"To continue to build upon recommendations in the Clean Environment Commission report on Bipole III, Manitoba Hydro will continue its standard practice in preparing an annual report on construction progress, environmental protection measures and monitoring results for the Project. These reports will be designed for a general readership and will provide opportunities for interested parties to provide feedback on the Project as it is constructed." As referenced in the above paragraph: Recommendation 12.3 of the CEC report directs Manitoba Hydro to provide "the Manitoba Government an annual report […] containing information in such detail that past, current and future assessments can be made as to the accuracy of predictions, success of mitigation actions and commitment to future actions […] These reports will be made public."

Questions:

1. Will Manitoba Hydro commit to making the annual reports for the MMTLP publicly available? If so, please identify how the information will be made publicly available.

2. Will the annual reports for the MMTLP include detail as to "the accuracy of predictions, success of mitigation actions and commitment to future actions […]" so that they may be drawn upon in future assessments?

RESPONSE:

1. Yes annual reports for MMTP will be made publically available, on the Project website and Manitoba Sustainable Development Public Registry.
2. Yes.

SUBJECT AREA: **Environmental Protection, Follow-Up & Monitoring, None**

REFERENCE: **Section 22.2.4**

QUESTION:

Section 22.2.4 states:

"A dedicated Project website has been developed to facilitate communication with the public".

This reflects a recommendation from the Bipole III project. Specifically, recommendation 12.2 of the CEC report:

"Manitoba Hydro develop and maintain, in perpetuity, an easily accessible Project-related website to contain all of the information related to monitoring and assessing environmental mitigation and management […]"

Questions:

1. Will the dedicated project website be maintained in perpetuity?

2. Will the dedicated project website contain "all of the information related to monitoring and assessing environmental mitigation and management"?

RESPONSE:

1) The length of time the project website will be maintained will be based on public interest, need and technology.
2) It is Manitoba Hydro's intention to include the relevant information related to monitoring and assessing environmental mitigation and management.

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Manitoba Hydro Document Library**

QUESTION:

Manitoba Hydro Document Library

https://www.hydro.mb.ca/projects/mb_mn_transmission/document_library.shtml

Provincial Public Registry

http://www.gov.mb.ca/sd/eal/registries/5750mbhydrombminnesota/index.html

The CEC directs participants to the Manitoba Hydro document library to access the impact statement https://www.hydro.mb.ca/projects/mb_mn_transmission/document_library.shtml.

Questions:

1. Will Manitoba Hydro be updating the document library to include the 2016 (updated) version of the Environmental Monitoring Plan? If not, why not?

2. Are there any other documents that Manitoba Hydro has filed, either with the Province or the National Energy Board, that have not been included in the document library?

a. If so, will Manitoba Hydro be updating the document library to include these submissions? If not, why not?

RESPONSE:

1) Manitoba Hydro will update the website with the latest version of the Environmental Management Plan.

2) Manitoba Hydro does not load onto its website all regulatory filings with the Province of Manitoba or the National Energy Board, this would result in excessive duplication of materials as the project progresses with limited additional value to the Public. Links are provided on the Manitoba Hydro webpage to both provincial and federal public registries that contain all regulatory filings for the Project.

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Chapter 22, Appendix C**

QUESTION:

As per CAC-IR-08, the MMTLP website does not appear to have been updated since the revised Environmental Monitoring Plan was submitted (dated 9/23/16). Similar sites exist for past projects. For example as per clause 64 of the License issued for Bipole III, Manitoba Hydro has "easily accessible project-related website [which contains] all the information related to monitoring and assessing environmental mitigation and management committed to in the EIS and as noted in the CEC report." On this site, the proponent provides a link to "documents that have been filed with Manitoba Sustainable Development such as Annual Reports, the Environmental Impact Statement and the Environmental Protection Plan, view the Bipole III document library."

The Bipole III Transmission Project website does not have the 2015 Biophysical Monitoring and Mitigation Report, which was posted to the provincial public registry site on January 19, 2017.

Questions:

With respect to the MMTLP project-specific website and "lessons learned" from past projects:

1. Can MB Hydro provide information (including but not limited to site visits, comments or questions provided through website and other information) about the project website for Bipole III?
2. Does Manitoba Hydro consider their website for Bipole III to be a success. Please explain.
3. Does Manitoba Hydro have a strategy to ensure that their project websites (including but not limited to Bipole III and Keeyask and MMTLP) are kept up to date and include important documents on an ongoing basis.

RESPONSE:

1. Manitoba Hydro has had approx 2,664 unique page views on its project document library webpage www.hydro.mb.ca/projects/bipoleIII/document_library.shtml from November14, 2014 thru Jan 31, 2017.
2. Manitoba Hydro does not consider use of its website as its only indicator of how successful it was in communicating with public, First Nations and Metis. Manitoba Hydro choose a multifaceted approach to communication, including a website, community liaisons with First Nations and Metis organizations and northern affairs communities, school presentations, and community involvement in monitoring programs to name only a few.
3. Manitoba Hydro keeps its websites up to date and includes relevant documents only once approved by the Regulator. The Bipole III 2015 Biophysical Monitoring and Mitigation Report had not been approved by Manitoba Sustainable Development, hence not loaded onto the Bipole III Project website.

SUBJECT AREA: **Monitoring, Adaptive Management**

REFERENCE: **Section 22.1.2 and Appendix C (as updated 9/23/16)**

QUESTION:

In the EIS, "adaptive management" is explained as: "an iterative process that involves planning, implementation, evaluation and learning, with adjustments made at any state of the process where needed" (p 22-2) Next, it states that three elements of social learning, as identified by McLean and Lee (1996), namely: rapid knowledge acquisition, effective information flow, and processes for creating shared understanding, were used in the "design and implementation of the Environmental Protection Plan. The draft Environmental Protection Plan cites a 2015 CEAA document, which states Adaptive Management anticipated environmental effects"

Later, it states that while the definition of adaptive management vary, characteristics include

o "Learning and reducing key uncertainties

o Using what is learned to change policy and practice

o Focus is on improving management

o Adaptive management is formal, structured and systematic"

Question: Can Manitoba Hydro please confirm which definition of "adaptive management" was used to develop its follow-up and monitoring program?

RESPONSE:

In an effort to sufficiently describe adaptive management these statements were considered to be mutually inclusive rather than exclusive. The statement outlined in Chapter 22 (p 22-2) is intended to provide the reader with a basic understanding of the adaptive management concept and provide an overview description of the process.

The second statement describes elements of social learning that are considered important in the facilitation of adaptive learning. Elements of social learning are considered goals for improving the design and ongoing implementation of the environmental protection program, as

a whole. These goals help to identify objectives of improved communication in the field and between stakeholders, communities and office staff.

The third statement comes from the Draft Environmental Monitoring Plan (Chapter 22C) and identifies some of adaptive management's main characteristics which can benefit the continual improvement of the environmental monitoring program to address unanticipated environmental effects. These characteristics were considered and utilized during the development of the follow-up and monitoring program.

SUBJECT AREA: **EPP, Monitoring**

REFERENCE: **Figure 22-1**

QUESTION:

Questions:

1. Please explain whether the "Community Liaison" is the same person/position as the "Community Coordinator"? If not, please explain the difference between a "Community Liaison" and a "Community Coordinator", and Manitoba Hydro's rationale for preferring "Community Coordinators" over "Community Liaisons"

2. Will funding for "Community Coordinators" continue during the (i) construction; (ii) operation and (iii) decommissioning phases of the project? Please provide explanation for your answer. Chapter 4 of the EIS indicates that First Nation and Métis communities and organizations were offered funding for part-time "Community Coordinators". The responsibilities of these positions include:

• "keep the leadership informed of the planning and engagement activities regarding the Project;

• maintain contact with Manitoba Hydro to discuss upcoming activities, offer advice, report progress and relay concerns raised by the leadership and members;

• help Manitoba Hydro to understand and address concerns early on in the engagement process, help facilitate input, and resolve issues; and

• organize, promote and facilitate attendance and participation in community open

• houses/meetings/workshops and other related engagement events for the Project held with their respective First Nation" (Page 4-9)

RESPONSE:

The community coordinator and community liaison are not the same position and Manitoba Hydro does not have a preference for community coordinators over community liaisons.

For the Manitoba-Minnesota Transmission Project, Manitoba Hydro offered community coordinator positions to communities to help facilitate the community engagement process during the project planning phase. As the project moves forward in the planning process

Manitoba Hydro envisions that engagement interest will transition towards project construction and monitoring. Please refer to response CEC-IR-079.

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Section 22.1.3 Learning from Previous Project**

QUESTION:

The EIS makes a commitment to learning from previous transmission projects, including the Wuskwatim Transmission Project, Bipole III and the Keeyask Projects (p 22-3). It notes that "Through the use of a single EPP, learnings from each project (e.g., monitoring and inspection results, documentation format changes) are shared among projects)." It then outlines six categories of learnings, including documentation, monitoring results, inspection results, processes, implementation and communication. The section on Monitoring Results notes "Environmental Inspectors and monitors that were on the ground during construction participate in the summer monitoring by discipline specialists (i.e., aquatics and heritage). This closed the feedback loop, fostering improvement and seeing results from winter construction." (p 22-3)

Questions:

1. In the 2015 Biophysical Monitoring and Mitigation Report, 37 sites (16%) of stream crossings were determined to be non-compliant. What is Manitoba Hydro's process and plan to ensure the Monitoring Program prepared for the MMTLP address these instances and impacts of non-compliance as well as all other instances of non-compliance.

2. Please describe, in detail, how the monitoring results from Bipole III informed the monitoring plan for MMTLP. In your explanation, please include an explanation of identified areas of non-compliance, and unexpected results identified in the 2014 and 2015 Bipole III transmission line monitoring program.

3. Please explain what measures have been taken to minimize instances of non-compliance.

RESPONSE:

1. 1) Manitoba Hydro is committed to protect and preserve natural environments and heritage resources affected by its projects and facilities. This commitment and a commitment to

continually improve environmental performance is demonstrated through the company's Environmental Management System, which is ISO 14001 certified. The experience developed by Manitoba Hydro in improving environmental performance in constructing the Bipole III Transmission Project roject and others, will be applied to the MMTP, and is outlined in Chapter 22 of the EIS.

In the Bipole III Transmission Project, stream crossing sites found in non-compliance were identified through a combination of daily environmental inspector reports and annual monitoring conducted by a qualified environmental consultant. Ongoing communications between Bipole III Transmission Project managers, senior environmental officers, construction supervisors and contractors has already allowed for improved adherence to the environmental protection plan in the 2016 and 2017 construction season. In response, improvements such as implementing sediment and erosion plans in a more timely fashion, ensuring clearing of trees near streams are felled away from the stream, and removing slash materials near riparian areas have led to improved compliance.

The Manitoba Hydro Transmission Unit reviews the outcomes of reporting and monitoring activities on a monthly basis and works to address shortcomings through enhanced communication between responsible managers and ensuring the provision of adequate resources. At the Departmental level, the Environmental Services Section of the Transmission Line and Civil Construction Department has weekly construction season calls with all the environmental staff to jointly discuss issues and proactively address areas of concern. Weekly environmental construction reports are also provided to Manitoba Sustainable Development to keep the Regulator apprised of all work underway.

2) The draft Environmental Monitoring Plan (EMP) for the MMTP was submitted after only one year of project monitoring for the Bipole III project. The early results of the 2014 Bipole III monitoring report validated the suitability of monitoring methods and study design on Bipole III which informed the development of the MMTP. An explanation of identified areas of non-compliance, and unexpected results identified in the 2014 and 2015 Bipole III transmission line

monitoring program can be found in the respective reports found on the Manitoba Hydro Project Website www.hydro.mb.ca/projects/bipoleIII/document_library.shtml.

3) Please see #1

SUBJECT AREA: **Monitoring, [Secondary Subject Text]**

REFERENCE: **Chapter 22, Appendix C (as updated 9/23/16)**

QUESTION:

The revised version of the Environmental Management Plan identifies several passive experiments (for a variety of species including white-tail deer, sharp-tailed grouse lekking sites, etc.), using a "BACI model" to test null and alternative hypotheses. In several sections, the document identifies important experimental considerations, including potential sampling biases, other factors which may impact populations, etc.

Questions:

1. Can you explain, in plain language, on what basis causality will be determined? For example, if there is a change in abundance of sharp-tailed grouse at lekking sites, please explain how this change will be associated with the installation of transmission lines, rather than other aspects.

2. What sample size will be necessary to establish statistical significance? Is it anticipated that the appropriate sample sizes will be achieved over project construction to provide evidence in support of the null or alternative hypothesizes?

RESPONSE:

1. Determining the basis of causality in complex biological systems can be difficult. Monitoring wildlife before, during and after construction will aim to track vital measures of populations (e.g., distribution, relative abundance, and movement) that are associated with (i.e., linked) potential Project effects. Linkages to potential Project effects are described in detail (refer to EIS Sections 9.1, 9.3.1.4.2, and 9.5.4.). For wildlife and habitat monitoring purposes, key Project effects are listed in the EIS Section 9.9. Secondly, there should be considerations for the most influential factors which drive a population (e.g., habitat, predators, disease, winter severity) and other lesser factors (e.g., accidents) which may influence

population; these elements should also be considered and potentially incorporated into the monitoring design.

Using a BACI design will help determine causality by comparing the response (e.g., change in abundance of sharp-tailed grouse lekking sites and/or the number of male grouse on a lek) between the control areas and the area impacted by the Project. Other information collected during surveys will also be used to develop informed discussions regarding observed responses and causality. For example, sharp-tailed grouse lekking abundance will be discussed using information gathered on the predator community in the area, including from aerial surveys of raptor nests and mammalian predators observed from camera traps. Additionally, changes in habitat quality will be used to help determine the potential response. A similar approach can be used for the other species studied. As with most complex biological systems, some assumptions regarding the response will have to be made. Any assumptions will be made using gathered information and supported with peer-reviewed literature to provide the most accurate explanation possible.

Finally, it should be made clear that not all monitoring studies require experimentation. For example in part, the “Birds of Prey study” (Manitoba-Minnesota Transmission Project Environmental Monitoring Plan Section 4.4.6) requires the identification of raptor nests in the Project footprint that may require removal or relocation. The identification of the nests is for protection planning purposes, and not for experimentation.

2. Yes, it is anticipated that the appropriate sample sizes will be achieved to provide evidence in support of the null or alternative hypothesizes for sharp-tailed grouse. Prior to fieldwork, power analyses will be utilized to determine the appropriate sample sizes required to attain statistical significance. These analyses will be based on the on the finalized study designs and associated hypotheses presented in the Environmental Monitoring Program submitted to Manitoba Sustainable Development. If statistical significance cannot be achieved, monitoring designs other than the BACI will be considered.

SUBJECT AREA: **Environmental Protection, Follow-up and Monitoring, None**

REFERENCE: **Chapter 22 Environmental Protection, Follow-up and Monitoring, Section 22.1.2, Chapter 22, Appendix C (as updated 9/23/16)**

QUESTION:

There are multiple descriptions of the monitoring programs:

Example 1

In describing adaptive management in the EIS, the proponents notes:

"Information gathered during follow up and monitoring activities will be used to verify the accuracy of the environmental assessment (EA) effects predictions and the effectiveness of implemented mitigation measures." (p. 22-2)

This definition would appear to focus on accuracy of assessment and effects mitigation.

Example 2

Section 4.0 Monitoring Requirements (Chapter 22 Appendix C) states:

"The EPP includes two main types of monitoring:

• Environmental monitoring – periodic or continuous surveillance or testing, according o a predetermined schedule, or one or more environmental indicators to establish/enhance knowledge of baseline conditions or to verify the accuracy of an environmental assessment and the effectiveness of mitigation measures. Pre and post disturbance and control-impact monitoring are the preferred approaches to monitoring effects

• Compliance monitoring – observation or testing conducted to verify whether a practice or procedures meets the applicable requirements prescribed by legislation, licence conditions, and/or Environmental Protection Plans"

This definition would appear to include accuracy of assessment and effects mitigation, and compliance measures.

Example 3

Section 2.2 states the objectives of the monitoring plan are:

• "confirm the nature and magnitude of predicted environmental effects as stated in the EIS;

• Assess effectiveness of mitigation measures implemented

• Identify unexpected environmental effects of the project, if they occur;

• Identify additional mitigation measures to address unanticipated environmental effects, if required;

• Confirm compliance with regulatory requirements including approval terms and conditions; and

• Provide baseline information to evaluate long-term changes or trends." (Appendix C page 5)

This would appear to include accuracy of assessment and effects mitigation, compliance measures, and learning should there be unexpected effects (and the associated mitigation measures required, should they arise).

Question:

1. Please confirm that the third example is the definition of the types of monitoring developed for this project.

RESPONSE:

The explanation as outlined on page 4 and 5 of Appendix C of Chapter 22, and referenced above as “Example 3”, provides the most detailed explanation of the objectives of the environmental monitoring program proposed for this project.

SUBJECT AREA: **Adaptive Management, EPP**

REFERENCE: **Chapter 22, Section 22.1.2 and Appendix C**

QUESTION:

In explaining adaptive management (section 22.1.2), the EIS touches on a framework for analysis offered by McLain and Lee. Specifically: "McLain and Lee (1996) used three elements of social learning theory to evaluate the application of AM: rapid knowledge acquisition, effective information flow, and processes for creating shared understandings. These elements are considered during the design and implementation of the Environmental Protection Program In their paper, McLain and Lee argue that a major flaw with traditional scientific adaptive management approaches is that they do not, generally, allow for "social interaction and consensus" with the broad range of stakeholders (e.g., those outside the institution and the scientific community). "To be effective, new adaptive management efforts will need to incorporate knowledge from multiple sources, make use of multiple systems models, and support new forms of cooperation among stakeholders." The review process outlined in Section 22.1.2 is as follows: "Program documents, processes, procedures and mitigation measures will be continuously evaluated by inspection, monitoring and communication programs. Reviews will be conducted to facilitate updates to the program. Within the Environmental Protection Program, AM will take place in two primary areas: at the management level, involving changes with the program structure itself, and at the implementation level, involving individual mitigation measures as management and implementation teams evaluate the onsite effectiveness of mitigation strategies or the program as a whole. Scheduled update meetings between departments, annual reviews of the program and its effectiveness will take place to foster the AM process." (p.22-2)

Questions:

1. How will Hydro "incorporate knowledge from multiple sources, make use of multiple systems models, and support new forms of cooperation among stakeholders."?

RESPONSE:

As indicated in section 22.1.4 a component of the First Nation and Metis Engagement Process was providing funding and the opportunity to conduct self-directed ATK or land use occupancy studies. This along with the Public Engagement Process helped to inform the environmental assessment and develop of the Environmental Protection Program for the project by incorporating knowledge from multiple sources. This also made use of multiple system models offered by the different groups participating in the processes. Manitoba Hydro is exploring new forms of cooperation through the First Nation and Metis Engagement Process as described in section 22.3.1.

Please refer to response CEC-IR-079 for additional information.

SUBJECT AREA: **PEP, FNMEP**

REFERENCE: **Chapter 3 Public Engagement Process; Chapter 4: First Nation and Métis Engagement Process**

QUESTION:

In explaining the public engagement process (PEP) for the MMTLP in Chapter 3 of the EIS, it is indicated that the "PEP developed for the Project is consistent with [the] industry standards and guidelines and is represented in the methods used and decisions made regarding the Project." Included in its summary of the International Association for Public Participation (IAP2) and the International Association for Impact Assessment (IAIA) guidelines and standards for PEP, Manitoba Hydro indicates that:

• "Those affected by a Project have a right to be involved in the decision-making process."

• "The Project will gather input from participants and develop engagement methods based on how the public wishes to participate."

• "Information will be presented so that interested parties can participate in a meaningful way."

• "The process will be adaptable, informative, proactive, inclusive and equitable."

• "The process will include early notification with reasonable timing and be sensitive to community values."

On page 4-2, Manitoba Hydro indicates that "the diversity of First Nation and Métis cultures and worldviews should be understood and appreciated."

Questions:

1. Please provide specific examples of how, if at all:

a. the process was sensitive to community values;

b. information was presented in a manner so that Indigenous people could participate in a meaningful way;

c. Indigenous people and nations were able to develop engagement methods based on how they wished to participate; and

d. Indigenous people were involved in the decision making process.

RESPONSE:

An example of how the process was sensitive to community values is demonstrated with adaptations made to the engagement process. Multiple communities indicated a preference to include youth and Elders and to work together as they valued inclusiveness and collaboration. After hearing about the importance of youth and Elder interaction and that youth involvement was important to their process of information sharing, the FNMEP was adapted to accommodate and encourage youth involvement by being open to youth attendance at meetings and by holding field tours that involve youth and Elders.

Manitoba Hydro also adapted the engagement process to better support the collaborative engagement model requested through the ATKs Management Team (see Chapter 4). Manitoba Hydro also heard preferences for broader VCs. More encompassing VCs, such as Wildlife and Wildlife Habitat, were included instead of single-species VCs in the environmental assessment to capture perspectives more aligned with different worldviews.

An example of how Manitoba Hydro presented information in a manner so that Indigenous people could participate in a meaningful way includes:

- Plain language documents, including “Quick Facts” (a Project Fact Sheet), Project posters, biophysical and socio-economic posters, and a plain language EIS summary were developed.
- An ATK proposal template was shared with First Nations, if and when requested, to assist with the development of a proposal for a study.
- An ATK Table of Contents template was developed at the request of a First Nation to assist with the development of their final ATK report.

Indigenous people and nations were able to develop engagement methods based on how they wished to participate. Local knowledge shared during FNMEP also informed preferences for how information should be shared by Manitoba Hydro. This influenced when and how materials were shared during community events and the format of the

materials shared (i.e., preferences for videos, plain language documents and field tours). Some communities preferred field visits and site tours, rather than in-community meetings. Field visits and site tours were included in response to this preference.

Through the different processes, opportunities were presented for communities to influence decisions made. These opportunities are documented in Chapter 3, Chapter 4, Chapter 5 and Chapter 11.

SUBJECT AREA: **Debt Ratio, None**

REFERENCE: **None**

QUESTION:

Recent media articles have stated that "Manitoba Hydro [...] is holding billions of dollars in assets, but also $14 billion in long-term debt, with little equity to back it up. That debt has been projected to grow to $25 billion in the next three to four years." It has been reported that Manitoba Hydro has eliminated "900 jobs and impos[ed] a wage freeze on some employees".

Questions:

In light of the new Hydro Board's concerns with regard to Hydro's level of debt:

1. How will the cost of the MMTLP impact the debt equity ratio of Manitoba Hydro (including both in short-term and long term impacts)?

2. What step are in place to ensure follow-up, and monitoring requirements and commitments will be fully funded and implemented?

RESPONSE:

1 These questions are out of scope of the Clean Environment Commission hearing.